UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/871,318	05/31/2001	David Fikstad	WP 2001.00	1207

22836 7590 03/04/2002

BAKER & MCKENZIE
660 HANSEN WAY
PALO ALTO, CA 94304

EXAMINER
YOUNG, MICAH PAUL

ART UNIT	PAPER NUMBER
1615	5

DATE MAILED: 03/04/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/871,318	Applicant(s) FIKSTAD ET AL.	
	Examiner Micah-Paul Young	Art Unit 1615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-19 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-19 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Objections

1. Claim 15 is objected to because of the following informalities: "...of disdregulation...". Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. Claims 1-6, 8-12 and 15-17 are all rejected under 35 U.S.C. 103(a) as being unpatentable over Jain et al (USPN 5780050) in view of Patchett et al (USPN 6043026) and Ke H. Z. et al *Endocrinology* **139** (4): 2068-2076 (1998).

Claims 1-6 are drawn to a transdermal formulation comprising a liquid drug reservoir, an adhesive solvent/water based pressure sensitive matrix, a permeation enhancer and an effective amount of lasofoxifene and a pharmaceutically acceptable salt thereof. Claims 8-12 are drawn to the formulations of claims 1-6 further comprising a drug permeation enhancer, which comprises

a lower alkanol and an effective amount of glycerol monooleate. Claims 15-17 are drawn to a method for treating disorders associated with estrogen deficiencies with the formulations of claims 1-6 and 8-12.

Jain et al discloses a transdermal formulation comprising a liquid drug reservoir, an adhesive solvent/water based pressure sensitive matrix, and a permeation enhancer (Abstract; column 5, lines 23-26; column 6, lines 6-12). Jain et al continues to disclose the formulation to comprise ethanol, and glycerol monooleate as possible solvents and penetration enhancers (column 7, lines 3-13). The reference does not however disclose the formulation to comprise lasofoxifene. The reference does however suggest and disclose the use of sex hormones as the active ingredient (column 4, lines 56-65, claim 2). These sex hormones used by the invention are used to influence the various physiological functions (column 1, lines 12-24).

Patchett et al discloses a combination therapy where for the prevention and treatment of osteoporosis, a disorder associated with estrogen deficiency. This therapy comprises the administration of a compound containing estrogen receptor modulators, one of them lasofoxifene (CP-336156) (column 14, line 48-66; claim 7). As acknowledged in the art, lasofoxifene can be used as an estrogen steroid substitute in hormone replacement therapy (Ke H. Z. et al page 2076). Patchett suggest that the compound of the therapy can be formulated into a topical solution (column 19, lines 48-53). This can be formulated into a transdermal solution.

One of ordinary skill in the art would have been motivated to combine the compound of Patchett with the transdermal formulation of Jain in order to impart estrogen-agonistic/antagonistic properties on the formulation, thereby increasing it's usefulness in hormone replacement therapies. It would have been obvious to one of ordinary skill in the art, at

the time of the invention to combine these teachings with the expected result of a transdermal formulation useful in the treatment of estrogen deficient disorders.

5. Claims 7 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Venkateshwaran et al (USPN 5912009) in view of in view of Patchett et al (USPN 6043026) and Ke H. Z. et al *Endocrinology* **139** (4): 2068-2076 (1998). Claim 7 is drawn to a transdermal formulation comprising a free form hydroalcoholic gel and an effective amount of lasofoxifene. Claim 13 is drawn to device comprising a means for adhering the drug reservoir to the application situs.

The reference teaches a transdermal formulation where a hydroalcoholic gel is created comprising glycerin, water, enhancer and a drug (column 10, lines 17-23). The reference also teaches a method of application of the invention. The invention of Venkateshwaran is brought into contact with the skin and is held in place by a type of adhesive (column 9, lines 19-39). The reservoir is brought into contact and is allowed to diffuse through the skin. The reference does not however teach the inclusion of lasofoxifene in the formulation. Venkateshwaran does however suggest that the drug can be any number of compounds suitable for topical and transdermal administration including hormones (column 5, lines 1-22).

It has been previously explained how Patchett and Ke H. Z. provide a compound that completes the lacking reference. Therefore one of ordinary skill in the art would have been motivated to combine the teachings of Venkateshwaran with the compound of Patchett in order to impart estrogen-agonistic/antagonistic properties on the formulation, thereby increasing it's usefulness in hormone replacement therapies. It would have been obvious to one of ordinary

skill in the art, at the time of the invention to combine these teachings with the expected result of a transdermal formulation useful in the treatment of estrogen deficiency disorders.

6. Claims 14, 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chang et al (USPN 4849224) in view of Jain et al (USPN 5780050), Patchett et al (USPN 6043026) and Ke H. Z. et al *Endocrinology* **139** (4): 2068-2076 (1998).

Claim 14 is drawn to a device for administering an active agent to the skin or mucosa. The device comprises:

a. a backing layer,

b. an agent permeable membrane,

c. a reservoir containing the formulation of claim 1

d. a peal seal,

e. a heat seal,

f. an adhesive overlay and

g. a removable release liner.

Chang discloses a device for the administration of an active agent containing all of these elements (column 2, lines 13-35; claim 1) in which the adhesive layers are on the periphery of the device, so as not to degrade the components of the reservoir. The reference does not disclose however the nature of the formulation other than suggestions of steroids such as estradiol (column 4, lines 35-37).

It has been previously addressed how Jain et al in combination with Patchett provide a transdermal formulation comprising lasofoxifene. One of ordinary skill in the art would have been motivated to combine these teachings in order to deliver the formulation to the patient

without degrading the components of the reservoir. It would have been obvious to one of ordinary skill in the art, at the time of the invention to combine the device of Chang with the formulation of Jain and Patchett with the expected result of a device to deliver a formulation that would be helpful in the prevention and treatment of estrogen deficiency disorders.

7. Claims 14, 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chang et al (USPN 4849224) in view of Jain et al (USPN 5780050), Patchett et al (USPN 6043026), Venkateshwaran et al (USPN 5912009), and Ke H. Z. et al *Endocrinology* **139** (4): 2068-2076 (1998).

Claims 18 and 19 are drawn to methods of treating or preventing disorders associated with estrogen deficiencies with the device of claim 14.

Although the references do not explicitly state a method for treating or preventing these disorders, the art suggests that a drug delivery system device may be applied to the afflicted situs (Venkateshwaran, column 9, lines 30-33). Jain and Patchett provide a formulation for this treatment, while Chang provides the vehicle for its delivery. Since the active agent (formulation of Jain and Patchett) dictates the utility of the delivery device, one of ordinary skill in the art would have been motivated to combine the formulation of Jain and Patchett into the device of Chang under the suggestion of Venkateshwaran, in order to deliver the transdermal formulation without degrading the components of the reservoir. It would have been obvious to one of ordinary skill in the art, at the time of the invention to combine these teachings under the suggestions of the art, with the expected result of a device to deliver a formulation that would be helpful in the prevention and treatment of estrogen deficiency disorders.

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Burkoth et al (USPN 5843468) teaches a transdermal formulation and device for delivery of hormones, using glycerol monolaurate, with a suggestion of monooleate. Taskovich et al (USPN 586097) also teaches the transdermal delivery of estradiol. Venkateshwaran et al (USPN 5952000) again teaches a transdermal formulation where hydroalcoholic gels are incorporated into the matrix.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Micah-Paul Young whose telephone number is 703-308-7005. The examiner can normally be reached on M-F 7:30am-4: 30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thurman K Page can be reached on 703-308-2927. The fax phone numbers for the organization where this application or proceeding is assigned are 703-746-7648 for regular communications and 703-746-7648 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-5014.

Micah-Paul Young
Examiner
Art Unit 1615

MPY
March 1, 2002

THURMAN K. PAGE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1600